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# ***Andrew Harker Associates***

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Consultants in Arboriculture

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*Professional Tree & Woodland Management Services*

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## **Trees and Construction**

### **BS5837 Arboricultural Report**

Site: Eldon Grove, Liverpool

Ref: Grove/Eldonian/RB/16

Client:

Eldonian Group Ltd

Trinity House

Eldon Place

Liverpool

L3 6HE

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- Jan 2016 -

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## 1. INTRODUCTION

- 1.1 Instruction: This report has been prepared for Eldonian Group Ltd (hereafter; client) in respect of the arboricultural related planning considerations to Eldon Grove Liverpool (hereafter; site). As the proposal relates to new construction at the site, the advice herein is produced in accordance with the British Standard 5837: 2012 'Trees in Relation to Design, Demolition and Construction - Recommendations' (hereafter; BS5837).
- 1.2 BS5837: The scope of BS5837 is to provide guidance on how trees and other vegetation can be suitably integrated into construction and development design schemes. The aim is to ensure the protection of amenity, i.e. retention and protection of such trees which are appropriate for retention and/or mitigation measures to ensure the continuation of tree cover and amenity contribution.
- 1.3 Scope of this report: This report has been produced in accordance with BS5837 and is intended to demonstrate how trees have been properly considered throughout the design process. The objective is to systematically assess and provide suitable recommendations regarding the proposal's potential impact on trees and vice versa.
- 1.4 Following instruction the consultant visited the site on the Jan 2016. Pursuant to the agreed brief a site assessment and a BS5837 tree survey were carried out; all trees within impacting distance of the proposed construction processes and application boundary were surveyed from ground level.
- 1.5 This advice is subject to caveat at Appendix I, outlines relevant terms and definitions at Appendix II and constitutes the findings of the preliminary site assessment and associated arboricultural recommendations.
- 1.6 The survey data and site observations were used to illustrate the surveyed trees in plan format as a 'Tree Constraints Plan' (hereafter; TCP). The TCP and the tree survey data table are at Appendix III.

## 2. SITE & APPLICATION INFORMATION

- 2.1 The application at the site relates to the former now derelict block of flats known as Eldon Grove in Liverpool also bordered by Bond Street and Bevington Street.
- 2.2 Proposal: It is understood that the current proposal is to renovate the existing block and add additional blocks "Proposed Plan" by Knight Frank.
- 2.3 The site requires consideration from an arboricultural perspective due to the presence of trees contained within and on the application boundary of which the proposed works are within impacting distance.
- 2.4 The BS5837 survey and objective assessment resulted in BS5837 quality/retention categories 'C – low quality' being attributed to the trees within impacting distance of the development this tree is T1 T2 and T3 also G1, G2 , G3 and G4. Other trees surveyed are outside of the proposed construction area
- 2.5 It is fair to state that the trees listed above provide limited to no landscape value.
- 2.6 The survey data and observations are illustrated on the appended TCP. Although the tree's rooting area is shown as per the requirements of BS5837 as a circular RPA, consideration for root growth influences should be applied when assessing the site. T9 in this is unlikely to have rooted past the boundary wall.

### 3. ARBORICULTURAL IMPLICATIONS ASSESSMENT (AIA)

3.1 The following information, as with the prior contents of this advice, should be read in conjunction with the appended Tree Survey Data Table and the 'Tree Constraints Plan (ref: Grove Place /TCP/01) and the architects plans.

#### 3.2 **Below Ground Considerations**

3.2 No ground constraints are envisaged

3.3 NOTE: As per s.2.6, with T9 in mind although the RPAs are plotted as circles, the existing hard surface extents and building foundations can be considered as suitable areas for the scheme [providing this is being replaced on a like to like basis], i.e. it is acceptable for hard surfaces to be re-laid within an RPA as well as for foundations within the existing footprint; new surfacing or foundations within RPAs will require justification that no negative impact will occur to the trees or their root growth conditions.

3.4 Trees T1 T2 T3 G1 G2 G3 and G4 will require removal for the development. The quality of the trees is such that they should not be used as a reason not to allow development

#### 3.5 **Above Ground Constraints & Future Pressures for Tree Works**

3.5.1 The location of the proposed structure represents a suitable clearance from the nearby retained trees out with the site (T4 to T9 inclusive) which currently has a clearance to its first major branches of 2m. Only minor branch tip clearance if any is anticipated to allow for the development in the future.

3.5.2 No further tree works will be required to install the proposal

#### 3.7 Tree Planting

3.7.1 No mitigating tree planting will be required as the removed trees were of little or no value

#### 4. ARBORICULTURAL METHOD STATEMENT

- 4.1 No method statement is required as the development will take place within the confines of the site. No tree outside the site will be adversely affected.

#### Appendix I

#### Caveat

Any and all information supplied to AHA by/on behalf of the client is assumed to be accurate unless otherwise informed. | This report is limited to the observations made on the date of inspection as detailed herein and any deletion, editing or alteration will result in the report being null and void in its entirety. | This report in its entirety may be deemed null and void if remedial works are undertaken on any area of the site, on or after the date of the survey. | No liability is assumed by the author or by AHA for any misuse, misinterpretation or misrepresentation of this report. | This report is not valid in adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events. | No responsibility is assumed either by the author of this report or by AHA for any legal matters that may arise as a consequence. | Neither the author nor AHA will be required to attend court or give testimony as part of this agreement. | The responsibility for any works undertaken on the basis of the recommendations of this report does not form part of this agreement.

## Appendix II

### Terms and Definitions

“Arboriculturist” - person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.

“Competent Person” - person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.

“Topographical survey” - an accurately measured land survey undertaken to show all relevant existing site features. A method of carrying out topographical surveys is given in RICS specification Surveys of land buildings and utility services at scales of 1:500 and larger.

“BS5837 Tree survey” - should be undertaken by an arboriculturist to record information about the trees on or adjacent to a site. The results of the tree survey, including material constraints arising from existing trees that merit retention, should be used (along with any other relevant baseline data) to inform feasibility studies and design options. For this reason, the tree survey should be completed and made available to designers prior to and/or independently of any specific proposals for development.

“Tree categorisation method” - trees should be categorised in accordance with the BS5837 cascade chart by an arboriculturist. This is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.

“Root protection area (RPA)” - layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority, shown as an arboricultural constraint in m<sup>2</sup>. The radius is calculated using the BS5837 calculation method. An arboriculturist may change the shape of an RPA but not reduce its area.

“Arboricultural implications assessment” - a study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

“Arboricultural method statement” - methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.

“Tree protection plan” - a scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures.

## Appendix III

Data Table: As appended (BS5837 Tree Survey Key & Table)

Tree Survey Plan: As appended (Grove Place/TCP/01)



# **TREE SURVEY IN ACCORDANCE WITH BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS'**

**SITE:** Eldon Grove Liverpool

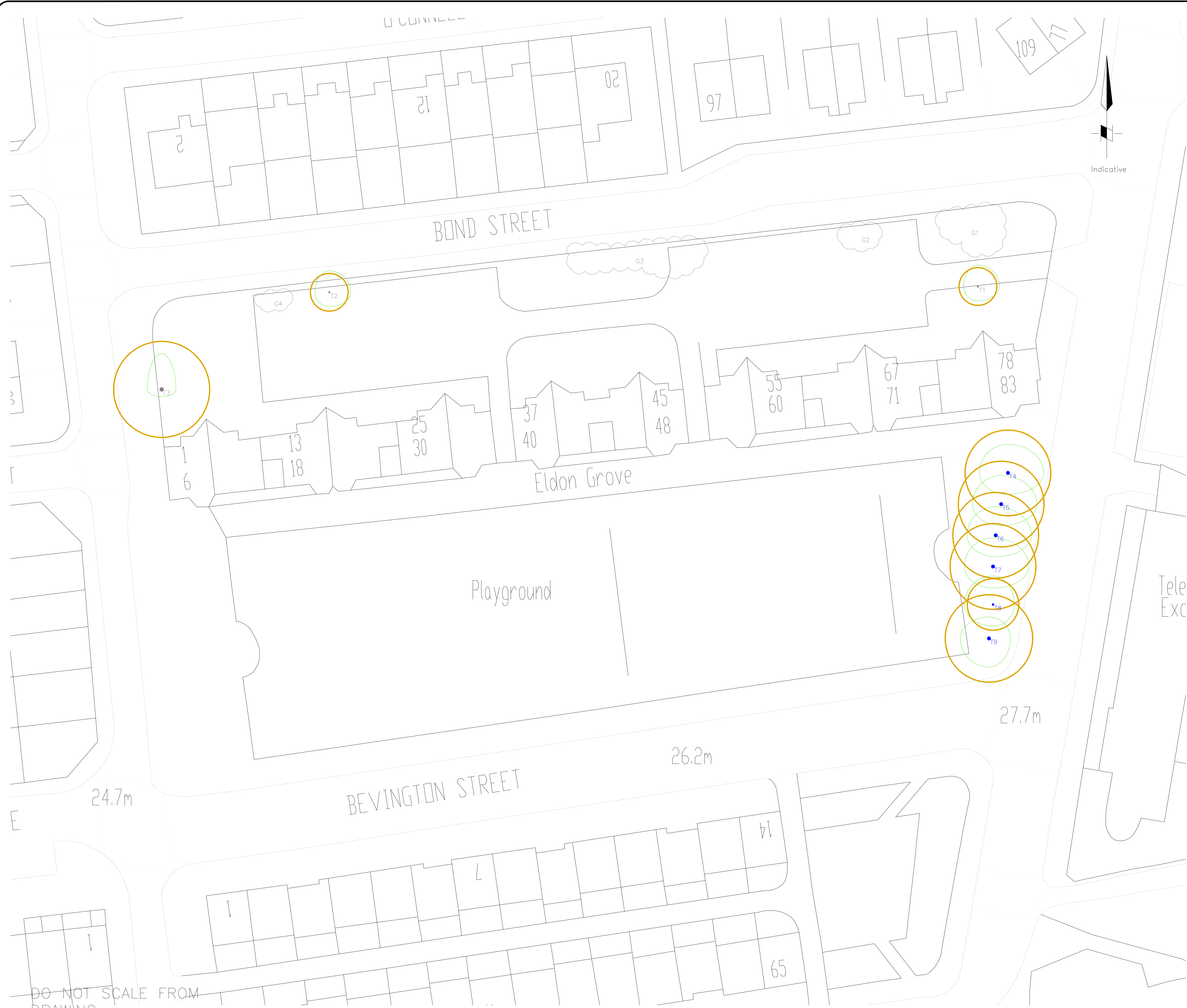
**ARBOR CONSULTANT:** Rod Benzies

**CLIENT:** Eldonian Group Ltd

**SURVEY DATE:** Jan-16

TREE REF. #	SPECIES	AGE	HEIGHT (in m)	CANOPY (in m) N - S - E - W				STEM (in mm)	RPA (in m²)	CIRCLE WITH A RADIUS OF	CLEARANCE (in m)	LIFE & VITALITY	NOTES	BS CAT.	MANAGEMENT	ERC
T1:C3	Goat Willow, Salix capreae, Saliaceae	EM	4	3	2	2	3	220	21.9	2.6	0	Norm	Coppice stool. Dbh measured below 1.5m	C 3		10_20
T2:C3	Norway Maple, Acer platanoides, Aceraceae	EM	4	3	2	2	3	220	21.9	2.64	0	Norm	Coppice stool. Dbh measured below 1.5m	C 3		10_20
T3:C3	Elderberry, Sambucus nigra, Adoxaceae	OM	5	2	2	1	5	560	141.9	6.72	0	Low	Coppice stool. Dbh measured below 1.5m	C 3		<10
T4:B2	European Lime, Tilia europaea, Tiliaceae	M	12	5	4	3	4	500	113.1	6	2	Norm	Set within pavement. Part of contiguous group	B 2		20-40
T5:B2	European Lime, Tilia europaea, Tiliaceae	M	12	5	4	3	4	500	113.1	6	2	Norm	Set within pavement. Part of contiguous group	B 2		20-40
T6:B2	European Lime, Tilia europaea, Tiliaceae	M	12	5	4	3	4	500	113.1	6	2	Norm	Set within pavement. Part of contiguous group	B 2		20-40
T7:B2	European Lime, Tilia europaea, Tiliaceae	M	12	5	4	3	4	500	113.1	6	2	Norm	Set within pavement. Part of contiguous group	B 2		20-40
T8:B2	European Lime, Tilia europaea, Tiliaceae	M	12	3	4	3	4	300	40.72	3.6	2	Norm	Set within pavement. Part of contiguous group	B 2		20-40
T9:B2	European Lime, Tilia europaea, Tiliaceae	M	12	3	4	4	3	510	117.7	6.12	2	Norm	Set within pavement. Part of contiguous group	B 2		20-40
G1:C3	Wild Cherry, Prunus avium, Rosaceae; Norway Maple, Acer platanoides, Aceraceae; Silver Birch, Betula pendula, Betulaceae	Y	4	0	0	0	0	100	4.524	1.2	0	Norm	Natural regeneration	C 3		10_20
G2:C3	Norway Maple, Acer platanoides, Aceraceae	Y	4	0	0	0	0	100	4.524	1.2	0	Norm	Natural regeneration	C 3		10_20
G3:C3	Norway Maple, Acer platanoides, Aceraceae	Y	4	0	0	0	0	100	3.77	1.095	0	Norm	Natural regeneration	C 3		10_20
G4:C3	Norway Maple, Acer platanoides, Aceraceae	Y	5	0	0	0	0	190	13.61	2.081	0	Norm	Natural regeneration. Coppice stool	C 3		20-40

TREE REF. #	SPECIES	AGE	HEIGHT (in m)	CANOPY (in m) N - S - E - W	STEM (in mm)	RPA (in m²)	CIRCLE WITH A RADIUS OF	CLEARANCE (in m)	LIFE & VITALITY	NOTES	BS CAT.	MANAGEMENT	ERC
FIELD KEY:													
TREE REF. #	Tree reference number: tag or plan number (T - individual tree, G - group of trees/shrubs, H - hedge);												
SPECIES	Genus, species and/or common name;												
AGE	Age classification (Y - young, EM - early mature, M - mature, LM - late mature, OM - over mature);												
HEIGHT (in m)	Approximate height of tree in metres;												
CANOPY (in m) N - S - E - W	Approximate branch spread in metres of the four principal compass points;												
STEM (in mm)	Stem diameter in millimetres: measured in accordance with s.4.6 of BS5837;												
RPA (in m²)	Root Protection Area: calculated as a function of the STEM measurement (single stem/multiple stem variant, as outlined within BS5837);												
CLEARANCE (in m)	Height in metres of crown clearance above the adjacent ground level;												
VITALITY	A measure of physiological condition typically gauged from annual extension growth (normal, poor, dead);												
NOTES	Structural and physiological condition observations;												
BS CAT.	BS5837 tree quality assessment category: resulting from structural/physiological condition and remaining contribution (approximate useful life expectancy);												
	Standard retention category <b>U</b> : in such a condition that any existing value would be lost within 10 years;												
	Standard retention category <b>A</b> : high quality and value, in such a condition as to be able to make substantial contribution of 40+ years;												
	Standard retention category <b>B</b> : moderate quality and value, in such a condition as to make a significant contribution of 20+ years;												
	Standard retention category <b>C</b> : low quality and value, currently in adequate condition to remain until new planting could be established 10+ years;												
	Standard retention sub-category, mainly due to: <b>1-</b> Arboricultural values, <b>2-</b> Landscape values, <b>3-</b> Cultural values, including conservation;												
MANAGEMENT	Preliminary management recommendations (as appropriate);												
†	Within the survey schedule denotes an estimate												



**KEY**

- Tree Crown Spread
- Root Protection Area (RPA)
- Tree Stem
- T1 Tree No.

**Tree Condition Category**

- A
- B
- C
- U

This Tree Constraints Plan (TCP) has been prepared in accordance with British Standard BS5837:2012 Trees in relation to construction – Recommendations.

The original of this drawing was produced in colour – a monochrome copy should not be relied upon.

REV.	DESCRIPTION	DWN	CHK'D	DATE
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THIS DRAWING IS CONFIDENTIAL AND MUST NOT BE REPRODUCED WITHOUT THE CONSENT OF AHA.

CLIENT  
Eldonian Group Ltd

PROJECT  
Eldon Grove  
Liverpool

TITLE  
Tree Constraints Plan (TCP)

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RB	23/01/2016					1:250

**ANDREW HARKER ASSOCIATES**  
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Drawing Number	A1
TCP-01	REV.

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